

## Application Review

Issue Date: Date needed

**Region:** Wilmington Regional Office  
**County:** Columbus  
**NC Facility ID:** 2400125  
**Inspector's Name:** Jmanda Dunston  
**Date of Last Inspection:** 04/05/2023  
**Compliance Code:** 3 / Compliance - inspection

<p style="text-align: center;"><b>Facility Data</b></p> <p><b>Applicant (Facility's Name):</b> West Fraser, Inc. - Armour Lumber Mill</p> <p><b>Facility Address:</b>          West Fraser, Inc. - Armour Lumber Mill          361 Federal Road          Riegelwood, NC 28456</p> <p><b>SIC:</b> 2421 / Sawmills &amp; Planing Mills General  <b>NAICS:</b> 321113 / Sawmills</p> <p><b>Facility Classification: Before:</b> Title V <b>After:</b> Title V  <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V</p>	<p style="text-align: center;"><b>Permit Applicability (this application only)</b></p> <p><b>SIP:</b> 15A NCAC 02D .0503, 02D .0504, 02D .0512, 02D .0515, 02D .0516, 02D .0521, 02D .0530, 02D .0614, 02D .1111, 02D .1806, 02D .1904  <b>NSPS:</b> IIII  <b>NESHAP:</b> MACT DDDD, ZZZZ, and DDDDD  <b>PSD:</b> Yes  <b>PSD Avoidance:</b> N/A  <b>NC Toxics:</b> N/A  <b>112(r):</b> N/A</p>
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Contact Data			Application Data
<p style="text-align: center;"><b>Facility Contact</b></p> <p>Lenore Popinchalk          EHS          (910) 655-4106          361 Federal Road          Riegelwood, NC 28456</p>	<p style="text-align: center;"><b>Authorized Contact</b></p> <p>D.J. Russell          General Manager          (803) 321-1204          361 Federal Road          Riegelwood, NC 28456</p>	<p style="text-align: center;"><b>Technical Contact</b></p> <p>Lenore Popinchalk          EHS          (910) 655-4106          361 Federal Road          Riegelwood, NC 28456</p>	<p><b>Application Number:</b> 2400125.23A  <b>Date Received:</b> 01/13/2023  <b>Application Type:</b> Renewal  <b>Application Schedule:</b> TV-Renewal  <b>Existing Permit Data</b>  <b>Existing Permit Number:</b> 02248/T32  <b>Existing Permit Issue Date:</b> 01/31/2020  <b>Existing Permit Expiration Date:</b> 07/31/2023</p>

<b>Total Actual emissions in TONS/YEAR:</b>							
CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2021	8.33	73.36	289.44	788.44	74.05	21.81	14.63 [Methanol (methyl alcohol)]
2020	9.33	82.23	341.89	813.72	84.88	26.45	18.13 [Methanol (methyl alcohol)]
2019	9.22	82.97	347.73	743.84	95.59	25.99	17.83 [Methanol (methyl alcohol)]
2018	8.70	76.60	367.95	208.80	83.78	27.39	18.89 [Methanol (methyl alcohol)]
2017	11.00	96.71	386.39	263.80	96.87	28.97	19.83 [Methanol (methyl alcohol)]

<p><b>Review Engineer:</b> Jacob Larson</p> <p><b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____</p>	<p style="text-align: center;"><b>Comments / Recommendations:</b></p> <p><b>Issue:</b> 02248T33  <b>Permit Issue Date:</b> <span style="background-color: yellow;">Date needed</span>  <b>Permit Expiration Date:</b> <span style="background-color: yellow;">Date needed</span></p>
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## 1. Purpose of Application

The Facility currently operates under Title V Operating Permit 02248T32 issued on January 31, 2020. West Fraser, Inc is categorized as a sawmill under the North American Industrial Classification System (NAICS) code 32111. The renewal application was received on January 13, 2023, or at least 6 months prior to the expiration date of July 31, 2023. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

Changes associated to this renewal:

- A 96-inch cyclone CD-C1-1 is permitted as a control device for the planer trim saw and hog ES-WW2. ES-WW2 is solely controlled by a larger cyclone CD-D1-1 and CD-C1-1 is no longer in service and will be removed from permit.
- Insignificant Activity IES-FP-1 is a 185 Brake horsepower (Bhp) diesel-fired emergency fire water pump. West Fraser, Inc. has removed the source from the facility.
- Condition 2.1.B.4 requires West Fraser, Inc to report tons of wood combusted in the wood-fired boiler ES-BW-1 for the purpose of demonstrating that the CDP kiln project outlined in application No. 2400125.11A did not result in a significant emissions increase of any NSR pollutants except VOC's over baseline actual emissions. Condition 2.1.B.4.b requires tons of wood combusted to be reported for a period of 5 years after the change. The project was completed greater than 5 years ago.

Additions associated with this renewal:

- Addition of IES-PILES to Insignificant activities list. Facility Stores Roundwood and bark in piles used for fuel.
- Addition of IES-Ash handling to Insignificant Activities. Facility stores and handles ash from manufacturing process.

Note that storage piles and ash handling meet the definition of insignificant activities in 15A NCAC 02Q .503(8) since the potential emissions of particulate matter (PM) are less than 5 tons per year.

## 2. Facility Description

West Fraser operates a sawmill in Riegelwood, NC. The primary product manufactured at the facility is southern yellow pine lumber. Other products include wood chips, sawdust, bark, and shavings. Pine logs are trucked in, debarked, and cut into appropriate dimensions in the sawmill. The green lumber is then dried in two continuous drying lumber kilns and one batch kiln, which are used to reduce the moisture content in the lumber from approximately 50 to 15 percent. Steam for the kilns is provided by a wood-fired boiler. The dried lumber is planed and trimmed in the planer mill. The finished lumber is then sorted by length, size, and grade and transported by truck or rail for delivery to the customer. West Fraser is permitted to produce up to 294,830 thousand board feet (MBF) of dimensional lumber each year, while the mill typically produces 180,000 to 200,000 MBF/yr.

The sawmill currently operates two shifts, Monday through Thursday. The kiln and boiler areas typically operate 24 hours per day and 7 days per week to avoid unnecessary start-ups and shutdowns. The planer mill operates two shifts, five days per week.

### 3. History/Background/Application Chronology

#### History/Background

- August 14, 2018 Last TV permit renewal issued. Air Permit No. 02248T30 with an expiration date of July 31, 2023.
- January 11, 2019 Air Permit No. 02248T31 Modification was issued for the addition of Air Curtain Burner (ES-ACI).
- January 31, 2020 Air Permit No. 02248T32 Modification was issued for the addition of a Temporary Boiler (TEMP-BNG-1).

#### Application Chronology

- January 13, 2023 DEQ received permit application 2400125.A23 for Title V renewal.
- January 17, 2023 Sent acknowledgment letter indicating that the application for permit renewal was complete.
- August 7, 2023 Draft permit and review forwarded for comments to Permitting Supervisor.
- August 14, 2023 Comments received from Booker Pullen, Permitting Supervisor.
- August 28, 2023 Draft permit and review sent to Joseph Voelker for comment (MACT). Comments received on 08/29/2023, 09/29/2023, and 10/25/2023.
- September 28, 2023 Draft permit and review forwarded to the Stationary Compliance Branch for comments. Minor comments were received October 06, 2023.
- September 28, 2023 Draft permit and review forwarded to the Wilmington Regional Office for comments. No comments were received October 02, 2023.
- November 02, 2023 Draft permit forwarded to the applicant for comments. No comments were received November 27, 2023.
- December 07, 2023 Draft permit and permit review forwarded to public notice.
- XXXX xx, 2023 Public comment period ends. \_\_\_ comments received.
- XXXX xx, 2023 EPA comment period ends. \_\_\_ comments received.
- XXXX xx, 2023 Permit issued.

#### 4. Permit Modifications/Changes and TVEE Discussion

The following table describes the modifications to the current permit as part of the renewal process.

Page No.	Section	Description of Changes
--	Cover letter and throughout permit	<ul style="list-style-type: none"> <li>Updated all dates and permit revision numbers.</li> </ul>
3	Cover letter	<ul style="list-style-type: none"> <li>Added "Notice Regarding The Right To Contest A Division Of Air Quality Permit Decision" page</li> </ul>
4	Cover letter Summary of Changes to Permit	<ul style="list-style-type: none"> <li>Added summary of changes made to Permit No. 09315T07 according to the most recent requirements of the renewal Title V permit</li> </ul>
2	Table of Contents	<ul style="list-style-type: none"> <li>Removed Section 2.3 "Permit Shield"</li> <li>Added Section 3.0 as "Insignificant Activities List"</li> <li>Added Section 4.0 as "General Permit Conditions"</li> </ul>
3	List of Acronyms	<ul style="list-style-type: none"> <li>Added "List of Acronyms"</li> </ul>
4	Permitted Emissions Table	<ul style="list-style-type: none"> <li>Removed Control device CD-C1-1 and description from table per the application.</li> </ul>
4	Permitted Emissions Table	<ul style="list-style-type: none"> <li>Removed the * and footnote at the bottom of the table.</li> </ul>
9	2.1(B)(4)	<ul style="list-style-type: none"> <li>Removed 15A NCAC 02D .530(u) from permit</li> </ul>
9-14	2.1(B)(5)	<ul style="list-style-type: none"> <li>Updated MACT DDDDD for clarity</li> <li>Memorialized initial compliance dates</li> <li>Updated emission limitations to current regulations</li> <li>Updated subsequent compliance requirements for clarity</li> <li>Added start-up and shut-down requirements</li> </ul>
16	2.1 (D)(1)(c)	<ul style="list-style-type: none"> <li>Updated spreadsheet link</li> </ul>
17	2.1 (D)(2)	<ul style="list-style-type: none"> <li>Added MACT DDDD condition</li> </ul>
17	2.1 (E)(1)(b)(vii)	<ul style="list-style-type: none"> <li>Updated opacity limits for Air Curtain Burner for clarity</li> </ul>
19-22	2.1 (F)(4) and (5)	<ul style="list-style-type: none"> <li>Added MACT DDDDD avoidance conditions for temporary boiler</li> </ul>
22	Section 2.3	<ul style="list-style-type: none"> <li>Removed MACT DDDDD permit shield for temporary boiler</li> </ul>
23	Section 3	<ul style="list-style-type: none"> <li>Added Insignificant Activities as Section 3 of the Title V Permit</li> </ul>
23	Section 3	<ul style="list-style-type: none"> <li>Removed IES-FP-1 (emergency fire pump) per the application from Insignificant Activities table</li> </ul>
23	Section 3	<ul style="list-style-type: none"> <li>Added IES-Piles per the application (storage pile) to Insignificant Activities table</li> <li>Added IES-Ash handling (ash handling) per the application to Insignificant Activities table</li> </ul>
23	Section 3	<ul style="list-style-type: none"> <li>Removed additional information link in footnote because site no longer exists</li> </ul>
24-31	Section 4	<ul style="list-style-type: none"> <li>Added General Conditions as Section 4 of the Title V Permit</li> <li>Updated General Conditions to (version 7.0, 08/21/2023)</li> </ul>

The following changes to the Title V equipment editor have been made:

- Removed control device CD-C1-1 (cyclone) from facility.
- Removed IES-FP-1 (emergency fire pump) from Insignificant Activities list.
- Added IES-PILES (storage pile) to Insignificant Activities list.
- Added IES-Ash handling (ash handling) to Insignificant Activities list.

## 5. Regulatory Review

The permit was updated to reflect the most current stipulations for all applicable regulations.

- 15A NCAC 02D .0503, Particulate from Fuel Burning Indirect Heat Exchangers – This regulation applies to the temporary boiler (ID No. TEMP-BNG-1) and limits particulate matter (PM) emissions from the firing of fuel in indirect heat exchangers (in lb/MMBtu) based on the heat input. For facilities with a total heat input of greater than 10 MMBtu/hr, the allowable PM emission rate is calculated using the following equation:

$$E = 1.090 * Q^{-0.2594}$$

Where:

E = Allowable emission limit for particulate matter in lbs/MMBtu; and,

Q = Maximum total site heat input in MMBtu/hr.

Q = (99.9) MMBtu/hr. Therefore, E calculates to 0.33 lb/MMBtu or 32.9 lb/hr. The temporary boiler is uncontrolled.

Using DAQ Fuel Oil Combustion spreadsheet, PM emissions are calculated to be 2.35 lb/hr. Therefore, compliance is indicated.

15A NCAC 02D .0503 requirements will continue to apply unless the boiler is no longer considered a temporary boiler under NSPS 40 CFR Part 60 Subpart Dc requirements as detailed in the rule.

Compliance is expected with 02D .0503 with proper operation of the temporary boiler as no monitoring, recordkeeping or reporting is required for particulate emissions from the firing of natural gas or No. 2 fuel oil.

- 15A NCAC 02D .0504, Particulate from Wood Burning Indirect Heat Exchangers –The HSG boiler (ID No. ES-BW-1) is subject to 02D .0504. Allowable PM emissions are determined from the equation  $E = 1.1698(Q)^{-0.2230}$ , where E equals the allowable emission limit for PM (in pounds per million Btu) and Q equals the maximum heat input in million Btu per hour. With a Q of 104.336 million Btu/hr, the allowable PM emissions from this boiler equals 0.41 pounds per million Btu. West Fraser must conduct inspection and maintenance on the multicyclone (ID No. CD-3) and wet venturi scrubber (ID No. CD-2) to ensure compliance with this rule. No changes to the monitoring, recordkeeping, or reporting (MRR) is required under this permit renewal/modification. Continued compliance is anticipated.

West Fraser was required to test the boiler and submit results by December 12, 2014 to ensure compliance with 02D .0504. Testing occurred on November 12, 2014, and the testing results demonstrated compliance with 02D .0504 as shown in the table below:

Pollutant	Emission Rate	Emission Limit	Compliance
Filterable PM	0.09 lb/mmBtu	---	---
Condensable PM	0.01 lb/mmBtu	---	---
Total PM	0.10 lb/mmBtu	0.41 lb/mmBtu	02D .0504

Notes:

- mmBtu = million Btu
- The test results were reviewed and approved by James Hammond of the Stationary Source Compliance Branch (SSCB) in a memorandum dated July 1, 2015.

Under the provisions of NCGS 143.215.108, the Permittee shall demonstrate compliance with the emission limit above by testing the source (**ID No. ES-BW-1**) for particulate matter following a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in General Condition JJ. If the results of this test are above the limits given in the permit, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0504.

- 15A NCAC 02D .0512, Particulate from Wood Products Finishing Plants - The woodworking operations (ID Nos. ES-WW1 and ES-WW2) are subject to 02D .0512. West Fraser must conduct inspection and maintenance of the control devices CD-A1-1 to ensure compliance. During the most recent inspection conducted by JManda Dunston on 04/05/2023, it was found that monthly external inspections of the control device was being performed and recorded. No changes to the MRR requirements are needed under this renewal, and continued compliance is anticipated.
- 15A NCAC 02D .0515, Particulates from Miscellaneous Industrial Processes – The continuous steam-heated, dual path lumber drying kilns (ID Nos. ES-CDPK1 and ES-CDPK2) are subject to 02D .0515. Allowable emissions of PM are calculated from the following equation:

$$E = 4.10(P)^{0.67} \quad \text{For process weight rates less than or equal to 30 tons/hr}$$
$$E = 55.0(P)^{0.11} - 40 \quad \text{For process weight rates greater than 30 tons/hr}$$

For both equations:

E = allowable emission limit for particulate matter in lb/hr; and

P = process weight rate in tons/hr.

The permit review for the addition of the kilns indicated the maximum lumber drying rate for each kiln is 157,000 board feet per hour or 29.7 tons per hour. With this process rate, the allowable emissions are 39.7 pounds per hour per kiln<sup>1</sup>. As reported in DAQ's emission inventory, the maximum actual PM emissions from the kilns since beginning operation was 2.97 tons/yr in 2015. This emission rate equals 0.34 lbs/hr per kiln, which demonstrates compliance with 02D .0504.

No MRR is required for PM emissions from the drying of lumber in the kilns. Continued compliance is expected.

- 15A NCAC 02D .0516, Sulfur Dioxide from Combustion Sources – This regulation applies to the boiler (TEMP-BNG-1) and limits sulfur dioxide (SO<sub>2</sub>) emissions from any source of combustion that is discharged from any vent, stack, or chimney to less than 2.3 pounds of SO<sub>2</sub> per million Btu (lb/MMBtu) heat input or 230 pounds of SO<sub>2</sub> per hour. Using DAQ Fuel Oil Combustion spreadsheet, SO<sub>2</sub> emissions are calculated to be 50.7 lb/hr. Therefore, compliance is indicated. 15A NCAC 02D .0516 requirements will continue to apply unless TEMP-BNG-1 is no longer considered a temporary boiler under NSPS 40 CFR Part 60 Subpart Dc requirements as detailed in the rule. Compliance is expected with 02D .0516 with proper operation of the temporary boiler as no monitoring, recordkeeping or reporting is required for sulfur dioxide emissions from

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<sup>1</sup> Jenny Kelvington (10/3/2012).

the firing of natural gas or No. 2 fuel oil.

The HSG boiler (ID No. ES-BW-1) is subject to 02D .0516. No MRR is required when firing wood in this combustion source because of the low sulfur content of the fuel. This fuel is inherently low enough in sulfur that continued compliance is expected.

- 15A NCAC 02D .0521, Control of Visible Emissions – The emission sources cited below are subject to 02D .0521. The equipment was manufactured after July 1, 1971 and must not have visible emissions of more than 20 percent opacity when averaged over a six-minute period, except as specified in 15A NCAC 02D .0521(d).
  - Two continuous steam-heated, dual path lumber drying kilns (ID Nos. ES-CDPK1 and ES-CDPK2) – No MRR is required for visible emissions from the kilns.
  - Woodworking operations (ID Nos. ES-WW1, ES-WW2, and ES-Fugl-L1-1) – West Fraser must make visible observations every week and maintain records in accordance with 2.1(A)(2) to ensure compliance with 02D .0521.
  - HSG wood-fired boiler (ID No. ES-BW-1) – West Fraser must make daily visible observations and maintain records in accordance with 2.1(B)(3)(d) to ensure compliance with 02D .0521.
  - Temporary Boiler (ID No. TEMP-BNG-1) – No MRR is required for visible emissions from this boiler.

During the most recent inspection conducted by JManda Dunston on 04/05/2023, it was found that all records of visual emissions monitoring were maintained in accordance with the permit. Continued compliance is expected.

- 15A NCAC 02D .0530, Prevention of Significant Deterioration – The continuous steam-heated, dual path lumber drying kilns (ID Nos. ES-CDPK1 and ES-CDPK2) and the steam-heated lumber kiln (ID No. ES-K1-4) are subject to Best Available Control Technology (BACT) limits under PSD. More discussion on PSD and BACT is provided in Section 9.
- 15A NCAC 02D .0614, Compliance Assurance Monitoring – The HSG wood-fired boiler (ID No. ES-BW-1) is subject to CAM. More discussion on CAM is provided in Section 9.
- 15A NCAC 02D .1111, Maximum Achievable Control Technology (MACT) – West Fraser is subject to the following MACTs:
  - NESHAP for Plywood and Composite Wood Products, 40 CFR Part 63 Subpart DDDD.
  - NESHAP for Stationary Reciprocating Internal Combustion Engines, 40 CFR Part 63 Subpart ZZZZ.
  - NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters,” 40 CFR 63 Subpart DDDDD (also referred to as the Boiler MACT or MACT 5D in this document).More discussion on these MACTs is provided in Section 6.
- 15A NCAC 02D .1806, Control and Prohibition of Odorous Emissions – This condition is applicable facility-wide and is state-enforceable only. West Fraser is required to operate the facility by implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary. Continued compliance is anticipated.
- 15A NCAC 02D .1904, Air Curtain Burners – This condition is applicable to Portable Air Curtain Burner (ID-No. ES-ACI). West Fraser must operate ES-ACI in accordance with

2.1(E)(1)(a) and (b) and maintain Recordkeeping requirements in accordance with 2.1(E)(1)(c) and (d).

## **6. NSPS, NESHAPS/MACT, PSD, 112(r), CAM**

### NSPS

The diesel-fired emergency fire pump (ID No. IES-FP-2) is subject to Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60 Subpart IIII. West Fraser complies with NSPS Subpart IIII by purchasing an engine certified to NSPS Subpart IIII for the same model year and maximum engine power for this engine.

Note that NSPS Subpart IIII does not apply to existing portable Air Curtain Incinerator (ACI) that includes a non-stationary compression ignition internal combustion engine. Also, EPA promulgated the NSPS and Emission Guidelines (EG) to reduce air pollution from commercial and industrial solid waste incineration (CISWI) units, under Subparts CCCC and DDDD, respectively. Those standards and guidelines apply to incinerators, also known as CISWI units, used by commercial and industrial facilities to burn non-hazardous solid waste. ACIs are considered to be CISWI units. ACIs that burn only 100 percent wood waste, 100 percent clean lumber, and 100 percent mixture of only wood waste, clean lumber and/or yard waste are only subject to the opacity requirements of the applicable NSPS.

NSPS Subpart CCCC applies to new CISWI units that commenced construction after June 4, 2010, or that commenced reconstruction or modification after August 7, 2013 while NSPS Subpart DDDD applies to existing CISWI units.

NSPS Subpart DDDD establishes the emission guidelines that are used to develop or update the associated State rule (e.g. 15A NCAC 02D .1904). However, 15A NCAC 02D .1904 has not been updated to reflect the changes as required by the emission guidelines. Normally, the Federal Plan (40 CFR 62 Subpart III) Requirements for CISWI Units that commenced construction on or before November 30, 1999 would apply; however, the Federal Plan has only been proposed and has not been promulgated to date. This ACI is a 1997 Model Year and commenced construction on or before November 30, 1999. Therefore, this existing ACI is not subject to NSPS Subpart CCCC nor 40 CFR 62 Subpart III.

### NESHAP/MACT

West Fraser is a major source of hazardous air pollutants (HAPs) and is subject to the following MACT standards.

#### *MACT Subpart DDDD*

The continuous steam-heated, dual path lumber drying kilns (ID Nos. ES-CDPK1 and ES-CDPK2) and the steam-heated lumber kiln (ID No. ES-K1-4) are subject to the NESHAP for Plywood and Composite Wood Products, 40 CFR Part 63 Subpart DDDD. The only requirement under MACT Subpart DDDD for these emission sources is an initial notification.

#### *MACT Subpart ZZZZ*

The diesel-fired fire water pump (ID No. IES-FP-2; 183 bhp) is subject to the NESHAP for Stationary Reciprocating Internal Combustion Engines, 40 CFR Part 63 Subpart ZZZZ. As a compression ignition engine constructed after June 12, 2006, with a site rating less than 500 hp and located at a major source of HAP, it meets the criteria of 40 CFR 63.6590(c)(6), which requires West Fraser to meet the requirements of 40 CFR 63 Subpart ZZZZ for this engine by meeting the



requirements of 40 CFR part 60 Subpart IIII. No further requirements apply to this engine. Continued compliance is anticipated.

Diesel-fired emergency generator (ID No. IES-EG-1; 166 bhp) are also subject to 40 CFR Part 63 Subpart ZZZZ. Both existing engines are compression ignition, constructed before June 12, 2006. They are less than 500 hp and are located at a major source of HAPs. The following is a summary of the requirements for these engines.

- Install a non-resettable hour meter on the engine
- Change oil and filter every 500 hours of operation or annually
- Inspect all hoses and belts every 500 hours of operation or annually and replace if necessary
- Inspect air cleaner every 1,000 hours of operation or annually
- Operate no more than 100 hours for maintenance and readiness testing
- Recordkeeping and reporting requirements

Emissions from these engines meet the definition of insignificant activities under 15A NCAC 02Q .0503(8). However, the engines remain subject to all applicable rules, including MACT Subpart ZZZZ. Continued compliance is anticipated.

*MACT Subpart DDDDD*

The wood-fired boiler (ID No. ES-BW-1) is subject to the NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63 Subpart DDDDD, beginning May 20, 2019. The boiler falls under the subcategory for “hybrid suspension/grate burners designed to burn wet biomass/bio-based solids.” The biomass fuel fired must exceed a moisture content of 40 percent on an as-fired annual heat input basis as demonstrated by monthly fuel analysis for the boiler to be considered a HSG boiler. Emission limits for HSG boilers under MACT DDDDD are provided in the table below.

Pollutant	Emission Limit
Hydrochloric Acid (HCl)	2.2E-02 lb per MMBtu of heat input (prior to October 6, 2025) 2.0E-02 lb per MMBtu of heat input (on or after October 6, 2025)
Mercury (Hg)	5.7E-06 lb per MMBtu of heat input (prior to October 6, 2025) 5.4E-06 lb per MMBtu of heat input (on or after October 6, 2025)
Carbon monoxide (CO)	3,500 ppm by volume on a dry basis corrected to 3-percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3- percent oxygen, 30-day rolling average)
Filterable Particulate Matter (PM) or Total Suspended Metals (TSM)	4.4 E-01 lb per MMBtu of heat input (PM) or 4.5E-04 lb per MMBtu of heat input (TSM)

For the venturi scrubber (CD-2) the facility must maintain 30-day rolling average pressure drop and the 30-day rolling average liquid flow rate at or above the lowest one-hour average pressure drop and the lowest one-hour average liquid flow rate, respectively, measured during the performance test.

If the facility elects to demonstrate compliance with the Hg, HCl, or TSM based on fuel analyses, the facility must conduct a monthly fuel analysis. If each of 12 consecutive monthly fuel analyses demonstrates 75 percent or less of the compliance level, the facility can decrease the

fuel analysis frequency to quarterly for that fuel.

Facility conducted its initial performance test on the (ES-BW-1) boiler on October 17, 2019 and a follow-up tests were conducted on October 20, 2021 and October 26, 2022. In accordance with 40 CFR 63.7515. The previous two consecutive years of testing showed emissions at or below 75% of the emissions limit for all pollutants except CO. Therefore, facility only test CO every year and all other pollutants (HCl, Hg, and PM or TSM) every three years.

The facility conducted an initial compliance tune up and one-time energy assessment. These activities were completed on May 20, 2019. Subsequent Tune-ups are required annually.

PSD

West Fraser is a PSD major source for VOC and CO, with potential emissions of these pollutants greater than 250 tons per consecutive 12-month period. West Fraser is subject to BACT for its two continuous steam-heated dual path kilns (ID Nos. ES-CDPK1 and ES-CDPK2) and its steam-heated batch kiln (ID No. ES-K1-4). The BACT limit for each kiln is provided in the table below:

Emission Source	BACT Limit	Comments
ES-K1-4	94.26 tons of VOC per consecutive 12-months 5.73 pounds of VOC per MBF of lumber dried	Final BACT determination dated March 11, 1997
ES-CDPK1 and ES-CDPK2	282.4 tons of VOC per consecutive 12-months, per kiln 4.11 pounds of VOC per MBF of lumber dried 137,415 MBF of lumber dried per 12-months, per kiln	Final BACT determination dated October 3, 2012
<u>Notes:</u> MBF = thousand board feet		

This permit renewal/modification does not affect the status, and no changes to the BACT permit conditions are required. Continued compliance is anticipated.

15A NCAC 02D .0530(u):

The tracking requirements under 02D .0530(u) were added to Air Permit No. 02248T25 issued on October 3, 2012. The facility was required to maintain records and reports for five years “following regular operations after the change.” For this case, the change is the addition of the two continuous kilns. The North CDP kiln was completed and brought online April 13, 2013. The South CDP kiln was brought online September 12, 2013. The 02D .0530(u) condition will be removed from the permit during this renewal process.

112(r)

The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in 112(r). This permit renewal/modification does not affect the 112(r) status of the facility.

CAM

The CAM rule (40 CFR 64; 15A NCAC 02D .0614) applies to each pollutant specific emissions unit (PSEU) at major TV facilities that meets all three following criteria:

- the unit is subject to any (non-exempt: e.g., pre-November 15, 1990, Section 111 or Section 112 standard) emission limitation or standard for the applicable regulated pollutant.
- the unit uses any control device to achieve compliance with any such emission limitation or standard.

- The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source (i.e., 100 tons per year for criteria pollutants or 10/25 tons per year for HAPs).

40 CFR 64 requires that a continuous assurance monitoring plan be developed for all equipment located at major facilities that have pre-controlled emissions above the major source threshold and use a control device to meet an applicable standard.

During the last permit renewal, each source was evaluated for CAM applicability, and it was determined that the wood-fired boiler (ID No. ES-BW-1) with multicyclone (ID No. CD-3) and venturi wet scrubber (ID No. CD-2) are subject to CAM while the other sources either do not have a control device to meet compliance with an emission limit or a standard for a federally regulated pollutant or the sources have uncontrolled potential emission of less than 100 tons.

The precontrolled emissions of woodworking operations are less than 100 tons per year established in previous modification/renewal 02248T30. Therefore, the woodworking operations with associated cyclone CD-D1-1 and CD-A1-1 are not subject to CAM. Therefore, there are no changes to CAM applicability to this facility at this time.

## **7. Facility Wide Air Toxics**

NC air toxic limits were removed as part of the significant modification for Air Permit No. 02248T26 issued on December 18, 2013. Prior to this modification, the air permit contained toxic air pollutant (TAP) limits for the continuous steam-heated, dual path lumber drying kilns (ID Nos. ES-CDPK1 and ES-CDPK2), and the diesel-fired emergency generator (ID No. IES-EG-1). These sources are subject to 40 CFR Part 63 and therefore exempt from state air toxic rules, provided facility wide toxic emissions pose no unacceptable risk to human health.

As indicated in the permit review for Air Permit No. 02248T26, West Fraser's air modeling was reviewed, and concentrations of benzene were observed to have the highest percentage of its acceptable ambient level (AAL) among all the TAPs modeled. The concentration of benzene was at 32.2 percent of its AAL. Given the large margin of compliance with the AAL for benzene, DAQ concluded removing NC Air Toxic Limits did not pose an unacceptable risk to human health. Requirements for 15A NCAC 02D .1100 and 02Q .0705 were removed from under Air Permit No. 02248T26. The current permit renewal does not change the facility's status with respect to NC Air Toxics.

## **8. Facility Emissions Review**

The facility-wide potential emissions do not change under this TV permit renewal. Actual emissions for criteria pollutants and HAPs for the years 2017 through 2021 are provided in the header of this permit review.

## **9. Compliance Status**

DAQ has reviewed the compliance status of West Fraser, Inc. During the most recent inspection, conducted on April 05, 2023 by Jmanda Dunston, the facility appeared to be in compliance with all applicable requirements. Further, the facility has had no air quality violations within the last five

years. The facility's Annual Compliance Certification was received on February 27, 2023 and indicated compliance with all applicable requirements in 2022.

#### **10. Public Notice/EPA and Affected State(s) Review**

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit shall be provided to EPA. Also pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 02Q .0521 above. No affected states or local agencies are within 50 miles of this facility.

#### **11. Other Regulatory Considerations**

- A P.E. seal is NOT required for this renewal application.
- A zoning consistency determination is NOT required for this renewal application.
- A permit fee is NOT required for this renewal application.

#### **12. Recommendations**

The permit renewal application for West Fraser Inc. located in Riegelwood, Columbus County, North Carolina has been reviewed by DAQ to determine compliance with all procedures and requirements. DAQ has determined this facility is complying or will achieve compliance, as specified in the permit, with all requirements that are applicable to the affected sources. DAQ recommends the issuance of Air Permit No. 02248T33.